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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,823	01/25/2006	Hiroshi Kaneta	Q92714	9638

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
LI, JUN	

ART UNIT	PAPER NUMBER
1793	

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06/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,823	KANETA, HIROSHI	
	Examiner	Art Unit	
	JUN LI	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

The instant abstract of the disclosure is objected to because it exceeds the maximum 150 word limit. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant case, the recited limitations of "outer edge part" and "active material region" in the instant claims are not clearly defined in the instant specification. Thus it renders claim indefiniteness because it is unclear which part or which portion of these two recited limitations refer to respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanjou (US2003/0215702) in view of Takeuchi (US6083645), Takeuchi (JP2003-208895) and Shimamura (US2003/0113621).

Tanjou teaches a secondary cell module comprising a combination cell formed by the positive electrode terminal and/or the negative electrode terminal connected in series and/or in parallel with each other through a metal bus-bar and a casing which contains this combination cell (abstract, [0090]). Tanjou further teaches the positive electrode (item 5a, Figure 1-4) formed by laminating positive electrode active material on both sides of positive current collector made of aluminum , negative electrode (item 5b, figure 1-4) formed by laminating negative electrode active material on both sides of the negative current collector ,

electrolytic solution (item 4a) contained in flexible outer wrapper of envelop type (item 4c), separator (item 5c) laminating negative and positive electrode ([0090], claim 1, 2).

Regarding claim 1, Tanjou fails to expressly teach the output discharge capacity, active material size and thickness, ratio between active material width and lead terminal.

Tanjou indicates that the secondary battery energy capacity, energy, power etc can be designed with probable battery cell numbers ([0036]).

Takeuchi'645 teaches a lithium secondary battery with output energy more than 350W/kg and a negative active material layer thickness of 10-200 μm made from a negative active material with a particle size of 1-20 μm (abstract, column 5 lines 19-20, 60-61, claim 1).

Takeuchi teaches using a positive active material with primary particle sizes of 1μm and aggregate size 13 μm ([0023]). Takeuchi also teaches the positive active material layer thickness can be 40 μm and negative active material layer can be 30 μm ([0027]).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt the output energy capacity and negative active material size, layer thickness as shown by Takeuchi'645 and positive active material particle size and layer thickness as shown by Takeuchi to improve the secondary battery of Tanjou. One of ordinary skill in the art would have been motivated to do so because higher output energy capacity is always desired for intended uses such as in electric cars and manipulating active material, layer thickness can help

obtain a desired discharge capacity and a better internal resistance battery as indicated by Takeuchi'645 (abstract, column 5 lines 19-20, 60-61, claim 1) and Takeuchi (abstract). It is to be note that the recited output energy capacity and particle size, layer thickness overlap with the prior art, thus a prima facie case of obviousness exists (See § MPEP 2144.05 [R-5] I). Furthermore, adopting known techniques for improving efficiency of similar product is well within the scope of one ordinary skill in the art.

Shimamura teaches the width ratio of the current collector and lead terminal can be 1 (abstract, Figure 1, [0053]).

It is to be noted that the width of the current collector is the width of the active material region in light of the instant specification (page 17 first 5 lines and Figure 2). Tanjou also further teaches the width of the terminal to certain extent is desired for intended uses in electric automobile([0093])

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt the ratio between the current collector (i.e. active material) and lead terminal as shown by Shimamura to improve the secondary battery of Tanjou. One of ordinary skill in the art would have been motivated to do so because a large width lead terminal with a ratio (relative to the active material region) larger than the recited range is well known and desired for intended use in electric automobiles in the art and adopting known technique for improving efficiency of similar product is well within the scope of one ordinary skill in the art.

Regarding claim 2-3 and 6, Tanjou further teaches positive terminal (item 8a figure4) and negative terminal are draw out facing each other (figure 4,

[0095]). Tanjou teaches the surface area of bus-bar is more than 1.5 time bigger than the surface area of terminal ([0096], [0097]) wherein the terminal are exposed outside the case (Figure 10).

Regarding claim 4 and 7-9, Tanjou already teaches a case containing a plurality of secondary lithium ion battery cell combination (abstract, claim 1, 2, [0005], [0010]).

Regarding claim 5 and 10-12, Tanjou fails to expressly teach cooling the positive and negative electrode terminal.

Shimamura further teaches using a cooling wind sent to the terminal electrode portions (figure 3A, B, [0038], [0037]) for improving the lifetime of the battery.

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt cooling wind sent to electrode terminals as shown by Shimamura to improve the secondary battery of Tanjou. One of ordinary skill in the art would have been motivated to do so because applying a cooling wind can help control the temperature increase of the battery thus improve the battery lifetime as indicated by Shimamura ([0037]) and adopting known technique for improving efficiency of similar product is well within the scope of one ordinary skill in the art.

Double Patenting

2. Claim1-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-10 of copending Application No. 10/352134 in view of Takeuchi (US6083645) and

Shimamura (2003/0113621). In the instant case, the copending application substantially overlapping with the recited subject matter in claim 1 except the copending application does not specifically saying using active material, separator and applying cooling wind in the battery cell while these elements are well known in the arts such as disclosed in Shimamura and Takeuchi'645 as discussed in previous rejections.

This is a provisional obviousness-type double patenting rejection.

Conclusion

1. All the claims are rejected for the reasons of the record.

2. The additional references on the 892 have been cited as art of interest since they are cumulative to or less than the art relied upon in the rejections above.

3. The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUN LI whose telephone number is (571)270-5858. The examiner can normally be reached on Monday-Friday, 8:00am EST-5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUN LI/

Examiner, Art Unit 1793

/J. L./

05/28/2009

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1793